

Analysis of pyrrolizidine alkaloids (PA)

Short information on PA	<ul style="list-style-type: none"> • Secondary plant metabolites • May have carcinogenic and genotoxic properties • 600 different PAs are known worldwide • Risk to health from contamination of food and feed
PAs detectable at ILB	<ul style="list-style-type: none"> • Senecionine; Senecionine-N-Oxide • Seneciphylline; Seneciphylline-N-Oxide • Senecivernine; Senecivernine-N-Oxide • Monocrotaline; Monocrotaline-N-Oxide • Retrorsine; Retrorsine-N-Oxide • Heliotrine; Heliotrine-N-Oxide • Trichodesmine, • Echimidine; Echimidine-N-Oxide • Intermedine; Intermedine-N-Oxide • Lycopsamine; Lycopsamine-N-Oxide • Europine; Europine-N-Oxide • Erucifoline; Erucifoline-N-Oxide • Jacobine; Jacobine-N-Oxide • Senkirkine • Lasiocarpine; Lasiocarpine-N-Oxide
Method	<ul style="list-style-type: none"> • BfR-PA-Tee-2.0/2014
Short information on method	<ul style="list-style-type: none"> • PA extraction using sulphuric acid water • Chromatographic separation via RP18 HPLC column • Detection by the use of Triple Stage Quadropole MS • PA quantification via matrix standard series
Verification	Product-specific verification (feasibility test)
Verification parameters	<ul style="list-style-type: none"> • Specificity • Accuracy • Repeatability • Linearity • LoQ • LoD
Quality standards	<ul style="list-style-type: none"> • ISO • GMP
Suitable matrices	<ul style="list-style-type: none"> • Plant extracts • Teas • Herbal drugs
Limit of detection	LoD is determined individually (strongly matrix dependent) Experience values for LoD: 1-20 µg/kg
Sample amount	5-10 g
Price	590 CHF incl. verification
Advantages of the procedure at ILB	<ul style="list-style-type: none"> • Calibration via 8-point standard addition <ul style="list-style-type: none"> ➔ Elaborate procedure that guarantees high measurement reliability during quantification • Product-specific verification enables matrix effects to be assessed in advance